

Express Mail Label No. EL975550258US

PATENTS
2287/C03/PVD/PS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Imran Hashim, Tony Chiang and Barry L. Chin
Serial No. : unknown
Filed : herewith
For : METHOD AND APPARATUS FOR FORMING IMPROVED
METAL INTERCONNECTS

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. §§ 1.56 and 1.97,
applicants wish to call the attention of the Examiner to the
following references:

U.S. Patent No. 4,756,810, Lamont, Jr. et al.

U.S. Patent No. 4,816,126, Kamoshida et al.

U.S. Patent No. 6,110,821, Kohara et al.

U.S. Patent No. 6,291,885 B1, Cabral, Jr. et al.

U.S. Patent No. 6,375,810 B2, Hong

Foreign Art Reference No. JP61261472A2 (JP)

Foreign Art Reference No. JP4030421A2 (JP)

Foreign Art Reference No. EP 0 202 572 B1 (EP)

Fusen Chen et al., U.S. Patent Application No.
08/856,116, filed May 14, 1997, entitled "Reliability Barrier
Integration for CU Application"

These references are also listed on the accompanying
Information Disclosure Statement (Form PTO-1449). Since the
afore-mentioned references are readily available from the parent
application serial No. 09/928,891, Applicants are not providing
copies with this Information Disclosure Statement. However,
should the Examiner require additional copies, Applicants would
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Consideration of the foregoing in relation to this
patent application is respectfully requested.

Respectfully Submitted,



Brian M. Dugan, Esq.
Registration No. 41,720
Dugan & Dugan, PC
Attorneys for Applicants
(914)332-9081

Dated: 1/21/03
Tarrytown, New York

U.S. Department of Commerce, Patent and Trademark Office LIST OF RELEVANT ART CITED BY APPLICANT (Use several sheets if necessary)					Docket No.: 2287/C03/PVD/PS	Serial No.: unknown
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U.S. Patent Documents							
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AL	JP61261472A2	11/19/86	JP		X <small>Abstract Only</small>			
AM	JP4030421A2	02/03/92	JP		X <small>Abstract Only</small>			
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U.S. Patent No. 5,693,563, Teong

U.S. Patent No. 5,731,2450, Joshi et al.

U.S. Patent No. 5,744,376, Chan et al.

U.S. Patent No. 5,759,906, Lou

U.S. Patent No. 5,904,565, Nguyen et al.

U.S. Patent No. 5,933,753, Simon et al.

U.S. Patent No. 5,966,634, Inohara et al.

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Foreign Art Reference No. 0 788 160 A3 (EP)

"Endpoint Detection Method for Ion Etching of Material Having a Titanium Nitride Underlayer", RESEARCH DISCLOSURE, February 1991, Number 322, (C) Kenneth Mason Publications Ltd, England

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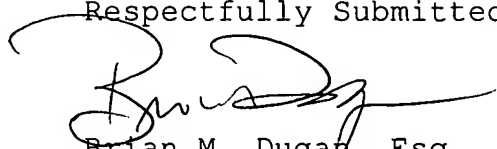
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	AF	5,302,266	Grabarz et al.				
	AG	5,303,139	Mark				
	AH	5,308,793	Taguchi et al.				
	AI	5,346,600	Nieh et al.				
	AJ	5,350,479	Collins et al.				
	AK	5,354,712	Ho et al.				

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AS	"SypherLine by MTi", November, 1985, Semiconductor International	
AT	H.P. Bader et al., "Planarization by Radio-Frequency Bias Sputtering of Aluminum as Studied Experimentally and by Computer Simulation", Nov./Dec. 1985, J.Vac.Sci.Technol.A3(6), pp. 2167-2171	
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	Applicant(s): Imran Hashim, Tony Chiang and Barry L. Chin	
	Filing Date: herewith	Group: Unknown

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*Examiner Initial		Document Number	Issue Date	Name	Class	Subclass	Filing Date If Appropriate
	AA	5,371,042	12/06/94	Ong			
	AB	5,482,611	01/09/96	Helmer et al.			
	AC	5,510,011	04/23/96	Okamura et al.			
	AD	5,512,150	04/30/96	Bourez et al.			
	AE	5,516,399	05/14/96	Balconi-Lamica et al.			
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	AG	5,584,974	12/17/96	Sellers			
	AH	5,585,974	12/17/96	Shrinkle			
	AI	5,589,041	12/31/96	Lantsman			
	AJ	5,591,269	01/07/97	Arami et al.			
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	AT	M.Yamashita, "Fundamental Characteristics of Built-In High-Frequency Coil-Type Sputtering Apparatus", Mar./Apr. 1989, J.Vac.Sci.Technol.A, Vol. 7, No. 2, pp. 151-158

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	AA	5,639,357	06/17/97	Xu			
	AB	5,651,865	07/29/97	Sellers			
	AC	5,654,232	08/05/97	Gardner			
	AD	5,674,787	10/07/97	Zhao et al.			
	AE	5,685,961	11/11/97	Pourrezaei et al.			
	AF	5,685,959	11/11/97	Bourez et al.			
	AG	5,718,813	02/17/98	Drummond et al.			
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	AA	5,810,963	Tomioka				
	AB	5,810,982	Sellers				
	AC	5,846,332	Zhao et al.				
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	AG	5,897,752	Hong et al.				
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	AI	5,976,327	Tanaka				
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	AK	6,001,420	Mosely et al.				

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	AA	6,042,700	03/28/00	Gopalraja et al.			
	AB	6,051,114	04/18/00	Yao et al.			
	AC	6,080,284	06/27/00	Miyaura			
	AD	6,106,625	08/22/00	Koai et al.			
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	AT	S. Hamaguchi et al., "Simulations of Trench-illing pro les Under Ionized Magnetron Sputter Metal Deposition", Mar./Apr. 1995, J.Vac.Sci., Technol.B., Vol. 13, No. 2, pp. 183-191

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AT	S.M. Rossnagel, "Collimated Magnetron Sputter Deposition with grazing Angle Ion Bombardment", Jan./Feb. 1995, J.Vac.Sci.Technol., pp. 156-158	
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